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**Evolved Expendable Launch Vehicle (EELV)  
Launch Service Prototypes**

**Request for Proposals under  
Other Transaction (OT) Agreement Authority**

Issued by:

Space and Missile Systems Center Launch Enterprise Directorate  
(SMC/LE)

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Solicitation No.: FA8811-17-X-XXXX

## **1. LAUNCH SERVICE AGREEMENTS INFORMATION**

### **1.1 Background and Overview**

This solicitation implements the Evolved Expendable Launch Vehicle (EELV) Program strategy to quickly transition from the use of non-allied space launch engines and to implement sustainable competition in National Security Space (NSS) launch services through public private partnership agreements that will partially fund industry's new and/or upgraded launch systems in return for commitments to provide future NSS launch services. The goal of the EELV acquisition strategy is to leverage industry's commercial launch solutions in order to have two domestic, commercial launch service providers that also meet NSS requirements, including the launch of the heaviest and most complex payloads. The strategy began with technology maturation, funded in FY14 and FY15, to raise the technology readiness level and increase the knowledge base for the entire U.S. rocket propulsion industrial base. The results of the technology maturation effort, which is currently underway, will be available to U.S. industry to the maximum extent practicable. The Air Force held an Industry Day in June 2016 to share the progress of these technical maturation efforts with industry and other Government agencies.

The strategy continued with investment in domestic Rocket Propulsion Systems (RPS). The Air Force awarded RPS development public-private partnership Other Transaction (OT) agreements to SpaceX, Orbital ATK, ULA and Aerojet Rocketdyne in January 2016 and February 2016. In order to receive an award, each of these companies demonstrated the proposed rocket propulsion system(s) are part of a planned or ongoing industry EELV-class launch system upgrade or development.

This solicitation builds on the RPS other transaction authority (OTA) agreements awarded in early 2016. The focus of this solicitation is to facilitate development of prototypes for up to three launch systems as early as possible, allowing those launch systems to mature prior to a future selection of two NSS launch service providers. The development of launch system prototypes includes completing the development of any RPSs required, as applicable for the launch systems proposed.

#### **1.1.1 Launch Service Agreements**

While the technical maturation and RPS investments are important enablers, the key step to transition off the RD-180 and introduce sustainable competition for future EELV NSS launch services will be public private partnership agreements that partially fund industry's new and/or upgraded launch system solutions. These Launch Service Agreements (LSA) are intended to allow the Air Force to competitively procure launch services in the future from domestic commercial launch service providers that meet EELV requirements. Any required RPS efforts associated with the LSA awards will be completed as part of the LSA OTA. The specifics of the transition from the RPS OTA to the LSA OTA will be handled on a case-by-case basis. The goal is to use innovative business arrangements that leverage industry's ongoing efforts to develop new and/or upgraded commercial launch systems. These agreements will be tailored to each launch service providers' needs to modify or develop these launch systems to meet all NSS requirements. This will allow launch system fixed costs to be shared across more launches, including commercial and civil, and will reduce the overall cost to the Air Force.

Through this solicitation the Government requests proposals for shared public-private investment in launch system prototype development efforts, to include the development and test of any required RPSs, the launch vehicle and its subsystems, infrastructure, manufacturing processes, test stands, and other items required for industry to provide domestic commercial launch services that meet all NSS requirements. As part of the response to this solicitation, Offerors may propose the completion of RPS prototype development begun under the current RPS investments, if required to complete the proposed launch system. These Launch Service Agreements (LSAs) will initially be funded using \$TBD in FY2017.

For the purposes of the Other Transaction Agreements for Prototypes resulting from this solicitation, the prototype is defined as a fully developed EELV-certified launch system. For the purpose of this solicitation development is defined as all activities from initial concept up to, but not including, production. However, producibility will be assessed during development. Development includes all activities leading up to and including EELV certification to meet the full range of EELV mass-to-orbit requirements and the validation of non-recurring engineering work. This could include full development of a new launch system or modifications to an existing launch system to meet NSS requirements.

For the Government's investment in this development, industry must agree to provide the items at the Not To Exceed (NTE) prices, per table 10 below, for any resultant future contracts. The Government plans to treat these NTE priced items as options, with the Government's unilateral right to call for delivery of the items at the NTE prices. The evaluation of the priced items does not obligate the Government to "exercise the option." In the event market conditions drive a decrease in prices, the Government's intent is to negotiate lower prices. See section 3.1.5 and Model Agreement (Annex C) for more details.

### **1.1.2 Future Launch Service Procurement**

Per national policy, the Air Force intends to ensure that there are two reliable sources for all national security launches. Depending on progress in developing new US domestic launch systems, the Air Force intends to explore the competitive award of Federal Acquisition Regulation (FAR)-based firm fixed price (FFP) contracts to two launch providers for NSS launch procurements as soon as possible, but no later than 2020 for 2022 launches. The LSAs will continue for those who receive launch service awards at that time. The Air Force intends to maintain mission success and assured access to space, transition from use of foreign propulsion systems, acquire NSS launch services at fair and reasonable prices, and create an environment in which industry may recoup their share of investment in new and/or upgraded launch services that meet NSS needs.

The Air Force is exploring ordering launch services from the selected providers using a share ratio. Under such an arrangement, the Offeror providing the Government with the best value would be awarded the majority of the available launch services, and the Offeror providing the Government with the next best value would be awarded the remainder. This share ratio would be applied to all of the Payload Category A and B (medium through intermediate class) launch vehicles (LVs) in the ordering period. To encourage lower prices, the Air Force is considering what types of commitments, if any, it might make to launch service providers. The order of Payload Category C (heavy class) LVs may be determined separately from the share ratio.

Early Integration Studies (EIS) for launch services during this period may be included in the launch services contracts. National Reconnaissance Office (NRO) Leading Edge Integration (LEI) will continue to be performed under NRO contracts. Both EIS and LEI may begin as early as FY19.

Under this approach, the Air Force would expect to order launch services annually. The share ratio would be applied across the entire ordering period, which is expected to be FY20-FY24. If a company has not closed all Space Flight Worthiness non-recurring engineering work plans prior to an annual order, the Government would assess the launch service provider's progress toward closing the work plans and the launch system's technical maturity in order to determine if the Air Force has confidence that the launch provider will be ready to meet the launch date. If the launch provider is not ready to meet the launch date, the launch services for that year may be assigned to another provider.

The Air Force is considering including a Launch Service Support (LSS) FFP task order as part of the launch services contracts. LSS will only cover non-discrete costs for NSS-unique launch service needs. Examples of possible non-discrete NSS-unique costs include fleet surveillance (access to commercial/civil launch data), access to fleet design data for Government mission assurance, NSS unique readiness efforts, and NSS unique infrastructure costs, such as vertical integration facilities and classified facilities.

## **1.2 Competition Process**

For this solicitation, the Government intends to use the competition process described below as well as those in Sections 3 *Proposal Submittal Instruction* and Sections 4 *Evaluation* of this document. Throughout this process, the Government may communicate with Offerors at any time.

1. Release of the Solicitation: The Government encourages Offerors to ask questions prior to submitting proposals. See Section 3 for instructions on how to contact the Agreements Officer.
2. Evaluation of Proposals: The Government will evaluate the proposals against the criteria listed in Section 4.
3. Discussions: The Government will send Evaluation Notices (ENs) to the Offerors regarding the evaluation of their proposals against the evaluation criteria in Section 4. The Government may schedule meetings to discuss the Offeror's proposal and to request additional information as necessary. The Government will request an updated proposed agreement prior to final negotiations (see Section 4.3).
4. Negotiations: The Government will negotiate with those Offerors with the highest rated proposals. The Government will notify Offerors that will not be considered for further negotiations. The selection may require concurrent or sequential negotiations separately with multiple parties for total investment amounts, terms, and conditions. The Government may negotiate directly with the Offerors regarding any aspect of a proposal, except for those articles that are identified as non-negotiable. Section 4.3 addresses negotiations and portfolio selection.
5. Agreement Award or Non Award: After the Government completes negotiations, the Source Selection Authority (SSA) will select a portfolio of solutions that represents the best value to the Government by most effectively supporting the Government's goal to achieve assured access to space

via two or more domestic commercial launch service providers that also meet NSS requirements. Awards, if any, might not occur simultaneously. Sections 1.3 and 4.3 address portfolio selection and agreement award.

5a. In addition to the Offerors who are awarded an agreement, Offerors whose proposals are not awarded an agreement will be notified.

5b. All Offerors will be given the opportunity to be debriefed by the Government. Offerors shall request debriefings within 14 days of notification of agreement award or non-award. Debriefings will not occur until the last award, if any, is made.

### **1.3 Basis for Agreement Awards**

Agreements will be awarded in accordance with the Other Transaction Authority for Prototype Projects (10 U.S.C. § 2371b). Unless specifically addressed in the solicitation, the FAR and its supplements do not apply to this selection process. Based upon an integrated assessment of the EELV Approach, Technical, Investment Cost, and Estimated Launch Service Prices evaluations and Government funding limitations, the Source Selection Authority (SSA) will select a portfolio of solutions that represents the best value to the Government by most effectively supporting the Government's goal to achieve assured access to space via two or more domestic commercial launch service providers that also meet NSS requirements.

Offerors may submit one proposal per company. The Government plans to award a portfolio of up to three agreements, but reserves the right to award any number of agreements, including none. The actual number of awards will be determined based on several factors including, but not limited to, number and quality of proposals received, amount of funding requested by Offerors, and total amount of funding available.

### **1.4 Objections**

Any objections to the terms of this solicitation, evaluation of proposals, or award of agreements must be presented in writing to the Agreements Officer (AO), within ten calendar days of (1) the release of this solicitation or (2) the date the objector knows or should have known the basis for its objection. Objections should be provided in letter format, clearly stating that it is an objection to this solicitation, or to the evaluation or award of an agreement, providing a clearly detailed factual statement of the basis for objection. Failure to comply with these directions is a basis for summary dismissal of the objection. The AO will adjudicate all objections.

## **2. PERFORMANCE REQUIREMENTS**

EELV System Performance Requirements are provided in Table 1 LSA OT Compliance Documents of Annex C, Attachment 4. The key performance requirements for the launch system are:

- Mass to orbit (MTO) parameters for all reference orbits as defined in the SPRD and SIS (Annex C, Attachment 4) (Additionally, rideshare interface requirements documents are in development and expected to be completed in 2016.)
- 97.5% mission reliability as defined in the System Performance Requirements Document (SPRD) Rev A\*
- Standard payload interfaces as defined in the Standard Interface Specifications (SIS) Rev B\*

In order for a proposal to be accepted under this solicitation, Offerors must submit any existing Certification Plan(s), draft Certification Plan(s), or a draft update to an existing Certification Plan that cumulatively addresses system development to meet the full range of EELV requirements. If there is an existing Certification Plan for a launch system, but it does not address the full range of EELV requirements, an updated draft Certification Plan that addresses the remaining EELV requirements must be submitted. See Sections 3.1.6.2 and 3.1.6.3 for further details on incorporating Certification Plan(s) into the Statement of Work (SOW).



### **3. PROPOSAL SUBMITTAL INSTRUCTIONS**

The Agreements Officer, Mr. David Sharp, is the sole point of contact for this solicitation. Address any questions or concerns to the AO at david.sharp.5@us.af.mil or 310-653-3697. Contacting other members of the Government regarding the source selection may result in elimination from the source selection.

The Government will not recognize nor pay any cost associated with the submission of a proposal. Proposals submitted in response to this solicitation will not be returned. All proposals will be treated as source selection information, as defined in FAR 2.101.

Proposals shall be clear and concise and shall include sufficient detail for effective evaluation and for substantiating the validity of stated claims. Proposals shall not simply rephrase or restate the Government's requirements but rather shall provide convincing rationale to address how the Offeror intends to meet these requirements. Offerors shall assume that the Government has no prior knowledge of their capabilities and experience and will base its evaluation on the information presented in the Offeror's proposal.

Elaborate brochures or documentation, binding, detailed art work, or other embellishments are unnecessary and are not desired.

Each section of the proposal shall be separately tabbed within a single three-ring, loose-leaf binder, permitting the binder to lie flat when open. Staples shall not be used. A cover sheet shall be included in each book, clearly marked with the title, copy number, solicitation identification, and the Offeror's name. The same identifying data shall be placed on the spine of each binder. All unclassified document binders shall have a color other than red or other applicable security designation colors.

A page is defined as one side of a sheet, 8 ½" x 11", with at least one-inch margins on all sides, using not smaller than 12-point type, with the exception of tables and figures, which may use 8-point type. A foldout is defined as one side of a sheet, 11" x 17", with at least one-inch margins on all sides, using not smaller than 12-point type, with the exception of tables and figures, which may use 8-point type. A foldout counts as two pages. Title pages, section and appendix cover pages, tables of contents, tabs, and glossaries/acronym listings, proposal cross reference matrix, list of figures, and list of tables are excluded from the specified page counts. Additionally, specific proposal sections have an unlimited page count as indicated in Section 3.1. Pages submitted in excess of the page limits identified in the solicitation will not be evaluated.

Offerors shall mark proposal information that requires protection for five years from Freedom of Information Act (FOIA) disclosure in accordance with 10 U.S.C Section 2371. The submission of a proposal means the Offeror agrees that the amount of investment (both Offeror and Government shares) for an awarded agreement is publicly releasable.

If classified information is required in the proposal, the Offeror shall provide a classified supplement and bound in a single classified addendum. Each entry in the classified addendum shall be referenced to the proposal volume, page number, and paragraph number to which it applies. Similarly, a reference shall be placed in the unclassified volume where the classified insert applies, giving the page and paragraph numbers within the addendum where it can be found. The classified addendum shall be

separately bound with an applicable security designation color cover, conforming to the National Industrial Security Program Operating Manual (NISPOM), DoD 5220.22M, dated 28 Feb 2006, the DD Form 254 Contract Security Classification Specification, and the EELV Security Classification Guide. **Pages in a classified addendum will be included in the page count for the applicable volume.**

One hardcopy of the proposal shall be submitted and received by the applicable deadline: **TBD**, by 10:00 a.m. Pacific Time.

In addition, two electronic copies of proposal(s) shall be submitted on CD-ROMs at the same time the hardcopies are submitted. The CD-ROMs shall be labeled as Copy 1 of 2 and Copy 2 of 2. The CD-ROMs shall be labeled with the same company and proposal identifiers used on the hardcopies. The proposal shall be in Microsoft Office formats or Adobe .pdf format as defined in Table 2.

In the event of a discrepancy between the hardcopy and electronic copies of the proposal, the hardcopy shall have precedence.

Proposals shall be addressed and delivered to the following:

SMC/LEK  
Attn: Mr. David Sharp  
483 N. Aviation Blvd.  
El Segundo, CA 90245

Delivery of proposals shall be coordinated with the AO at least 24 hours in advance of the due date and time. Early deliveries of proposals shall also be coordinated with the AO. Classified proposals shall be delivered to the following:

The Aerospace Corporation, Visitor's Center 1  
2310 E. El Segundo Blvd.  
El Segundo, CA 90245

If a proposal will contain classified information, Offerors shall coordinate with the AO at least seven (7) calendar days in advance of the due date and time to confirm delivery details and coordinate a time for the Government to receive the classified package.

Proposal packages must be clearly marked on the outside of the package with the following information:

- Solicitation Number: FA8811-17-x-xxxx
- The AO's name and office information
- Offeror's name and address clearly marked on the outside of the package

Proposals received by the Government after the published date and time for receipt may not be accepted. Acceptance of late proposals will be handled in accordance with FAR 52.215-1(c)(3).

The Government will use selected contractor support personnel to assist in providing technical, business and investment expertise during proposal evaluations. Any support contractor involvement

in the evaluation process shall be free of conflicts of interest, will be bound by appropriate non-disclosure agreements to protect proprietary and competition sensitive information, and must have accepted limitations on future contracting.

By submitting a proposal under this announcement, the Offeror is deemed to have consented to release of data in its proposal to the following Air Force support contractors advising on the evaluation of proposals:

**Table 1 - Air Force Support Contractor(s)**

| <b>Company Name</b>               | <b>Address</b>                                     |
|-----------------------------------|--|
| The Aerospace Corporation         | P.O. Box 92957, Los Angeles, CA 90009-2957         |
| ManTech International Corporation | 2101 W. Maple St., El Segundo, CA 90245            |
| Scitor Corporation                | 185 S. Douglas St, Suite 200, El Segundo, CA 90245 |
| Tecolote Research, Inc.           | 2120 E. Grand Ave, Suite 200, El Segundo, CA 90245 |

Individuals from the above support contractors have signed individual non-disclosure agreements with the Government which strictly prohibits any release or disclosure of information outside the source selection team.

If an Offeror believes that the requirements in these instructions contain an error or omission, or are otherwise unsound, the Offeror shall immediately notify the AO in writing with supporting rationale as well as the remedies the Offeror is asking the AO to consider.

### 3.1 Proposal Content

Proposals should be specific and quantifiable in describing how the proposed effort culminates in development of a launch system prototype meeting the full range of EELV requirements. The launch system prototype may include a single launch vehicle or a family of launch vehicles.

Proposals shall be submitted using the following format and page limits:

**Table 2 - Proposal Content**

| Section | Title                                    | Instructions to Offerors Paragraph | Page Limit | File Format                       |
|---------|--|------------------------------------|------------|-----------------------------------|
| I       | Executive Summary                        | 3.1.1                              | 5          | Adobe .pdf                        |
| I       | Verbal Presentation of Executive Summary | 3.1.1                              | N/A        | Microsoft Powerpoint              |
| II      | EELV Approach                            | 3.1.2                              | 6          | Adobe .pdf                        |
| III     | Technical: Design                        | 3.1.3.1                            | 25         | Adobe .pdf                        |
| III     | Technical: Schedule                      | 3.1.3.2                            | 10         | Adobe .pdf and Microsoft Project* |
| IV      | Investment Cost                          | 3.1.4                              | Unlimited  | MS Excel and Adobe .pdf**         |
| V       | Estimated Launch Service Prices          | 3.1.5                              | Unlimited  | MS Excel and Adobe.pdf**          |
| VI      | Agreement                                | 3.1.6                              | Unlimited  | Microsoft Word                    |

\* Schedules in Section 3.1.3.2 shall be provided in Microsoft Project format. Microsoft Project schedules have an Unlimited page count.

#### 3.1.1 Section I: Executive Summary

The Offeror shall include an executive summary describing the proposed launch system prototype, the prominent and distinguishing features of the proposed launch system prototype, and how Government investment in the prototype will lead to a launch service that leverages industry's commercial development and also meets EELV requirements. The executive summary shall stand alone and not directly reference the other sections of the proposal.

- For the proposed launch system prototype, the Offeror shall describe how existing RPS development, if applicable, will transition to the LSA effort.
- If the Offeror is involved in current EELV certification efforts or will need to initiate future EELV certification efforts, the Offeror shall outline the plan to achieve EELV certification for a launch vehicle (or family of launch vehicles) that meets all EELV launch requirements.
- For the launch services using the launch system developed under a launch service agreement, the Offeror shall include the commercial sales prices, separately listing each major configuration of the launch system.
- The Offeror shall briefly describe the Technical and Investment Cost information.
- The Offeror shall briefly summarize any past successful launch system development efforts.

- The Offeror shall identify its teaming partners and major subcontractors.

In addition to the written narrative for the Executive Summary, the Offeror shall provide a verbal briefing of the significant content of the Executive Summary and any other points the Offeror would like to include. The Offeror shall have up to two hours to brief. The briefing will be video recorded. The briefing, briefing slides, and the written Executive Summary will be used to orient evaluators to the Offeror's proposal. The briefing, briefing material, and Executive Summary will not be evaluated. If the Government has questions regarding the briefing, they will be provided to the Offeror before the briefing or during formal discussions. The briefing slides shall be delivered in Section I of the proposal. Dates and times for the briefings will be determined mutually between each Offeror and the Government, and the briefing schedule will be finalized within three business days of proposal receipt. The briefings shall be at Los Angeles Air Force Base, California within 10 days of proposal receipt.

### **3.1.2 Section II: EELV Approach**

The Offeror shall describe the approach to meet EELV launch service requirements. At a minimum, the Offeror shall address the following topics:

- 1) The ability to meet all EELV reference orbits, as defined in the SPRD and SIS (Annex C, Attachment 4)
- 2) The ability to support up to five NSS launches per year
- 3) The characteristics of launch system infrastructure, including both the East and West coasts, that meet EELV requirements in the SPRD and SIS (Annex C, Attachment 4)
- 4) The proposed mission assurance approach to ensure low risk and high confidence in launching NSS missions
- 5) The ability to slow or surge to accommodate uncertain NSS, commercial and civil launch forecasts

In addition to any of the items addressed above, the Offeror may include a proposed approach to exceed other launch service requirements, which are documented in Annex C Attachment 4.

The Offeror shall clearly identify significant aspects of its proposed approach that may be of benefit to the Government during the performance of the LSA or during the performance of future launch service contracts.

### **3.1.3 Section III: Technical Factor**

#### **3.1.3.1 Subfactor 1: Design**

##### **3.1.3.1.1 Technical Feasibility**

The Offeror shall provide a technical feasibility analysis for:

- 1) Stage Separation System(s)
- 2) Engines/Motors
- 3) Payload Fairing (address all SIS fairings)

Each of the technical feasibility analyses listed above shall include the following information:

- a) Design or flight heritage,
- b) Roadmap that demonstrates progression from the current technology readiness level (TRL) to TRL 9 using analyses, testing, and demonstration, as applicable,
- c) Description of new and existing technologies, materials, and processes used to drive the design, and;
- d) Technical risks with risk handling plans.

### **3.1.3.2 Subfactor 2: Schedule**

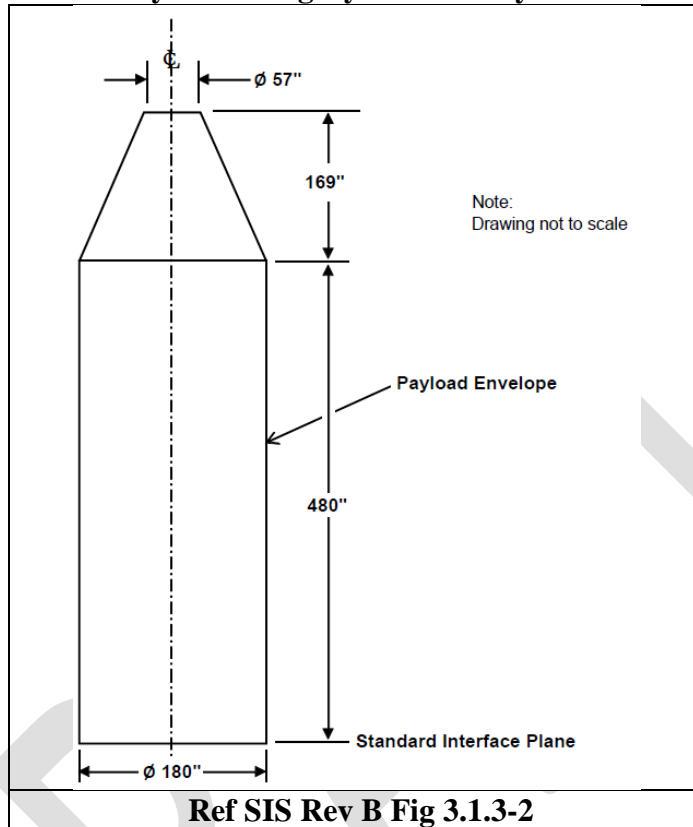
#### **3.1.3.2.1 Schedule Activities**

The Offeror shall provide a single Microsoft Project schedule that includes the following:

- 1) Lowest level of tasks/activities necessary for performance visibility for all supporting launch system development, payment milestones, and certification efforts (to include certification flights) through the completion of Space Flight Worthiness non-recurring engineering effort.
- 2) All necessary activities and tasks to include the development of LV booster, upper stage, and the launch pad infrastructure for the Payload Category A and B LVs that meets applicable EELV requirements, including activities to accomplish the tasks in the Offeror's proposed SOW. *For the purposes of Subfactor 2, Payload Category A and B LVs are defined as LVs capable of achieving all EELV Mass-to-Orbit Requirements except GEO 2 and Polar 2 as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services."*
- 3) All necessary activities and tasks to include the development of LV booster, upper stage, and the launch pad infrastructure for the Payload Category C LV that meets applicable EELV requirements, including the development of a payload fairing (PLF) with the capability to interface with the National Reconnaissance Office (NRO) Mission Support Equipment (MSE) as defined in the SIS, and activities to accomplish the tasks in the Offeror's proposed SOW. *For the purposes of Subfactor 2, the Payload Category C LV is defined as an LV capable of achieving the GEO 2 and Polar 2 EELV Mass-to-Orbit Requirements as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services," which includes a 173-inch diameter standard interface and a payload fairing with a minimum payload static envelope as defined in Table 4.*
- 4) Certification efforts (to include certification flights) with NRE work validated in time to support applicable ILC dates as defined in paragraph 3.1.3.2.2.
- 5) LSA payment milestones.
- 6) All tasks supporting launch system development, including the development of an LV booster(s), upper stage(s), and launch pad infrastructure through the completion of Space Flight Worthiness non-recurring engineering effort.
- 7) Identification of a valid critical path.
- 8) Relationships/dependencies that identify how predecessor and successor tasks and milestones are logically linked.
- 9) Use of tasks with durations greater than forty-four (44) working days is less than 5% of all tasks within the schedule.
- 10) The Offeror shall provide a narrative that describes the assumptions, methodology, and supporting data used to formulate task durations. Task durations shall be supported by the

Offeror's actual historical performance data. If the Offeror does not have relevant performance data, estimating rationale shall be provided.

**Table 4. EELV Payload Category C Class Payload Static Envelope**



#### **3.1.3.2.2 Schedule Risk Assessment**

The Offeror shall perform a schedule risk analysis for completing the development and certification of an EELV certified launch system that meets:

- 1) EELV Payload Category A and B launch vehicle mass-to-orbit requirements, covering all except the Payload Category C launch vehicle mass-to-orbit requirements (Polar 2 and GEO 2) as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services," including NRE validation, by no later than the start of FY22;
- 2) EELV Payload Category C launch vehicle mass-to-orbit requirements (Polar 2 and GEO 2) as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services," which includes a 173-inch diameter standard interface and a payload fairing with a minimum payload static envelope as defined in Table 4, including NRE validation, by no later than the start of FY25.



The schedule risk analysis shall include the following:

- 1) Schedule risk analysis results derived using Monte Carlo methodology with a minimum of 10,125 runs performed.
- 2) Cumulative probability distributions (S-curve) for the target end dates with specific completion dates for every 10<sup>th</sup> percentile from 10% to 90%.
- 3) Use of best, most likely, and worst case probability distributions.

The Offeror shall provide a narrative explaining the following:

- 1) Assumptions and methodology used to formulate the best case, most likely case, and worst case probability distributions.
- 2) Historical performance data used to formulate the best case, most likely case, and worst case task durations. If the probability distribution does not reflect historical performance, then the Offeror shall provide an explanation for the deviation.

### **3.1.4 Section IV: Investment Cost**

*Notional cost figures are included in the tables in this section as examples only.*

#### **3.1.4.1 Projected Total Investment Costs**

The Offeror shall provide all cost tables in unlocked Microsoft Excel formatting with active formulas. The Offeror shall provide the projected total costs to complete the launch system prototype. Of the projected total costs, the Offeror shall specify the period of performance and identify the proposed dollar amounts between Non-Government and Government funding sources by Government Fiscal Year (FY). The Offeror shall utilize the format in Table 5 below while also adhering to the Cost Guidelines set forth in Section 3.1.4.6.



Table 5. Offeror Projected Investment Costs

| Funding Sources                        |   | FY17  | FY18  | FY19  | FY...n | Total of All Years | Cost Share (%) |
|--|---|-------|-------|-------|--------|--------------------|----------------|
|  | Launch System Prototype (specify period of performance) |       |       |       |        |                    |                |
|  | Non-Government Source #1                                | \$200 | \$150 | \$150 |        | \$500              | 35%            |
|  | Non-Government Source #2                                |       | \$50  |       |        | \$50               |                |
|  | Government  | \$300 | \$400 | \$300 |        | \$1000             | 65%            |
| <b>Industry Cost Share by Year (%)</b> |   | 40%   | 33%   | 33%   |        | 35%                | -              |
| <b>Total Non-Government</b>            |   | \$200 | \$200 | \$150 |        | \$550              | 35%            |
| <b>Total Government Investment</b>     |   | \$300 | \$400 | \$300 |        | \$1000             | 65%            |
| <b>Total Combined Investment</b>       |   | \$500 | \$600 | \$450 |        | \$1550             | 100%           |

#### 3.1.4.2 Investment Cost Element and Funding Summary

The Offeror shall provide a cost element summary and funding summary; a sample format is provided below at Table 6 and Table 7, respectively. Offerors may choose to provide the information in another format based on their accounting system. However, the Offeror shall address all items included in the table or otherwise explain why they are not addressed.

The Offeror shall describe the content of each cost element and shall describe how the dollars were determined. The Offeror shall provide a schedule of indirect and direct rates used and approval status of the rates. Per Section 3.1.4.5, fee, profit and Cost of Money shall not be proposed. The Offeror shall explain the estimating methodology used and any underlying assumptions.

**Table 6. Investment Cost Element Summary**

| <b>Cost Elements in Dollars (\$)</b>                     | <b>FY17</b>  | <b>FY18</b>  | <b>FY...n</b> | <b>Total of All Years</b> |
|--|--------------|--------------|---------------|---------------------------|
| Direct Labor   | \$100        | \$150        | \$200         | \$450                     |
| Indirect Labor (e.g., Fringes)                           | \$50         | \$75         | \$75          | \$200                     |
| Company Overheads (e.g., G&A)                            | \$50         | \$75         | \$75          | \$200                     |
| Materials  | \$150        | \$250        | \$200         | \$600                     |
| Subcontracts   | \$150        | \$100        | \$150         | \$400                     |
| Other Direct Costs (not captured in other cost elements) | \$50         | \$50         | \$50          | \$150                     |
| <b>Total Cost</b>  | <b>\$550</b> | <b>\$700</b> | <b>\$750</b>  | <b>\$2,000</b>            |

**Table 7. Funding Summary**

| <b>Funding Sources</b>                 | <b>FY17</b>  | <b>FY18</b>  | <b>FY...n</b> | <b>Total of All Years</b> |
|--|--------------|--------------|---------------|---------------------------|
| <b>Non-Government</b>                  |              |              |               |                           |
| (a) Source A                           | \$100        | \$100        | \$100         | \$300                     |
| (b) Source B                           | \$200        | \$300        | \$400         | \$900                     |
| (c) Source C*                          | \$100        | \$100        | \$100         | \$300                     |
| <b>Total Non-Government Investment</b> | <b>\$400</b> | <b>\$500</b> | <b>\$600</b>  | <b>\$1500</b>             |
| Proposed Government Investment         | \$100        | \$100        | \$100         | \$300                     |
| Government Property Rental Equivalency | \$50         | \$100        | \$50          | \$200                     |
| <b>Total Government Investment</b>     | <b>\$150</b> | <b>\$200</b> | <b>\$150</b>  | <b>\$500</b>              |
| <b>Total Combined Investment</b>       | <b>\$550</b> | <b>\$700</b> | <b>\$750</b>  | <b>\$2,000</b>            |

\* Include Independent Research and Development (IR&D) funds as a separate line item if being proposed as a source of non-Government funding. See Cost Guidelines in Section 3.1.4.6 below.

### 3.1.4.3 Supporting Information

The Offeror shall provide supporting estimating rationale for the proposed Non-Government Investment, Government investment and Total Combined Investment, to demonstrate that the proposed figures are an accurate projection for the proposed development effort. The Offeror shall show the methodology and calculation to derive its final estimates for the launch system prototype development. The Offeror shall also describe why the proposed development cost share is appropriate given the risks and opportunities presented to the Offeror and the Government.

The Offeror shall provide the name and contact information of the cognizant Administrative Contracting Officer (ACO).

#### **3.1.4.4 Treatment of Government Property (GP)**

If the Offeror requires the use of Government Property (GP), the Offeror shall include the rental equivalency for that property in the Total Government Investment amount in Table 7. If an Offeror is renting property from another Government entity (e.g., NASA test facilities), but not for Government use on a Government contract, it shall not be included in the Total Government Investment. For each applicable fiscal year, the Offeror shall complete Table 8 in Microsoft Excel format (unlocked and with active formulas) using the acquisition cost information and the rental equivalency method described in FAR 52.245-9(e)(2) as laid out below:

- In Column (A), identify the requested GP
- In Column (B), identify the acquisition cost from Attachment TBD and list the dollar value
- In Column (C), multiply column (B) by 2% (round to the nearest dollar) to determine the partial acquisition cost of the item and list the dollar value
- In Column (D), divide column (C) by 720 to determine the hourly rental rate (round to the nearest cents) and list the dollar value
- In Column (E), propose the rental time required (round to the nearest whole hour) and list the value; “rental time” is defined in FAR 52.245-9(a)
- In Column (F), multiply column (D) by (E) (round to the nearest dollar) to determine the total rental charge for the requested item and list the dollar value
- In Column (G), briefly describe the need for the use of the GP
- Add the sum of Rental Charges in Column (F) and add the resulting dollar value to Table 7 above

The Offeror shall provide documentation that the proposed Government property usage has been approved by, or at a minimum, pre-coordinated with the cognizant ACO.

**Table 8. Rental Equivalency for Government Property Use**

| <b>A<br/>Item<br/>Requested</b>   | <b>B<br/>Acq Cost<br/>(\$)</b> | <b>C<br/>Partial<br/>Acq Cost<br/>(Multiply B<br/>*2%)<br/>(\$)</b> | <b>D<br/>Hourly<br/>Rental<br/>Rate<br/>(Divide C<br/>by 720)<br/>(\$ per hr)</b> | <b>E<br/>Rental<br/>Time<br/>(hours)</b> | <b>F<br/>Rental<br/>Charge<br/>(Multiply D *<br/>E)<br/>(\$)</b> | <b>G<br/>Description<br/>of Need</b> |
|---|--------------------------------|---|---|--|--|--------------------------------------|
| <b>Item A</b>   | \$100,000                      | \$2,000   | \$2.78  | 400                                      | \$1,112  |                                      |
| <b>Item B</b>   | \$77,777                       | \$1,556   | \$2.16  | 250                                      | \$540  |                                      |
|   |                                |   |   |  |  |                                      |
| <b>Sum of Rental Charges for All GP Items:<br/>(Insert amount into Table 7)</b> |                                |   |   |  | <b>\$1,652</b>   |                                      |

### **3.1.4.5 Investment Cost Guidelines**

The Offeror shall comply with the following cost guidelines:

1. The Government and the Offeror will be cost sharing partners in the proposed project. The total investment from Non-Government sources must be at least 1/3 of the Total Investment Cost. The proposed cumulative Government payments shall not exceed the maximum (2/3) cost share of total investment costs at any point. Regardless of the intended Government cost share percentage, Government investment will be a fixed dollar amount, not a percentage of costs incurred.
2. Non-Government investment shall only include those investments made after the date the Government enters into final negotiations with an Offeror. For planning purposes, use **TBD DD MMM YY**.
3. There are two types of investment that the Offeror may contribute as a non-Government funding source:
  - a. Cash: Outlays of funds to perform the proposed launch system prototype development effort; Cash includes labor, materials, new equipment, and relevant subcontractor efforts. Sources include new R&D funds, profit or fee from another contract, overhead or capital equipment expense pool. New R&D funds offered to be spent on the launch system prototype development effort and subject to the direction of the project management may be proposed as total cost of the project.
  - b. In-Kind: Reasonable value of materials and the use of equipment or other property used in performance of the proposed launch system prototype development effort. This reasonable value should not include the residual value of these materials, equipment, or other property after completion.
4. The Offeror shall identify the proposed period of performance, labor rates for all proposed hours, and an explanation of each proposed cost element.
5. If the Offeror includes Independent Research and Development (IR&D) funds as part of the Non-Government investment, then the Offeror shall provide documentation that inclusion has been approved by the cognizant Divisional Administrative Contracting Officer (DACO). The Offeror shall specify the amount of IR&D funds to be invested in Table 7.
6. The Offeror shall not include the following as part of the projected Total Costs:
  - a. Sunk costs or costs incurred before the reference date listed above in Section 3.1.4.5 (2)
  - b. Foregone fee or profit
  - c. Foregone General and Administrative expenses or cost of money applied to a base of R&D
  - d. Fee, Profit, or Cost of Money
  - e. Bid and proposal costs
  - f. Value claimed for intellectual property or prior research
  - g. Parallel research or investment, i.e., research or other investments that might be related to the proposed project but which will not be part of the Statement of Work (SOW). Typically these activities will be undertaken regardless of whether the proposed project proceeds.

- h. Off-Budget Resources, i.e., resources that will not be risked by the Offeror on the SOW, will not be considered when evaluating the total cost.

### 3.1.5 Section V: Estimated Launch Service Prices

The Offeror shall use the format provided below in Table 9 and Table 10 to propose estimated prices for launch services in Then Year (TY) dollars. Table 9 assumes a minimum of 20 launches split between two launch service providers over a five year ordering period (FY20-FY24). Table 9 also shows a scenario in which the Offeror receives orders for 40% of the minimum (eight launches) and one order to launch a Payload Category C. Offerors shall use Table 10 to propose NTE prices for reference orbits that may be ordered between FY20-FY24. The prices proposed should include all discrete effort required for the launch services. Orbit descriptions and a reference manifest are provided in Section 6.0.

The purpose of Table 9 is for the Government to understand the Offeror's most likely pricing scenario. The purpose of Table 10 is for the Offeror to provide the Government with NTE pricing.

The Offeror shall use the format provided below in Table 11 to propose estimated prices for an annual FFP launch service support (LSS) CLIN. The prices proposed should include all non-commercial (NSS unique) non-discrete effort required for the launch services. Examples of possible LSS costs due to NSS unique requirements include scope to conduct fleet surveillance (access to commercial/civil launch data), access fleet design data for Government mission assurance, support NSS unique readiness efforts, and develop and/or maintain NSS unique infrastructure, such as vertical integration facilities and classified facilities.

The Offeror shall describe how the proposed pricing was determined, addressing the pricing differences for various orbits and the variations in LSS prices per year. The Offeror shall describe the effort included in the LSS prices. The Offeror shall provide a schedule of indirect and direct rates used and approval status of the rates. The Offeror shall explain the estimating methodology used and any underlying assumptions.

**Table 9. Scenario for Estimated Pricing for Launch Services (40% and Payload Category C)**

| Orbit Description | Year of Procurement | Year of Launch | Price of Launch Service |
|-------------------|---------------------|----------------|-------------------------|
| MEO Transfer      | GFY20               | GFY22          | { Offeror fill in }     |
| GTO 2             | GFY21               | GFY23          | { Offeror fill in }     |
| MEO Transfer      | GFY21               | GFY23          | { Offeror fill in }     |
| GEO 1             | GFY22               | GFY24          | { Offeror fill in }     |
| GEO 2             | GFY22               | GFY27          | { Offeror fill in }     |
| GTO 2             | GFY23               | GFY25          | { Offeror fill in }     |
| MEO Transfer      | GFY23               | GFY25          | { Offeror fill in }     |
| LEO               | GFY24               | GFY26          | { Offeror fill in }     |
| GTO 2             | GFY24               | GFY26          | { Offeror fill in }     |

NOTE: Orbit Descriptions listed in Table 9 are for pricing purposes and should not be used for manifest planning purposes.

**Table 10. NTE Pricing for Other Reference Orbits (FY20-FY24)**

| <b>Orbit Description</b> | <b>Procured at L-XX</b> | <b>Price of Launch Service</b> |
|--------------------------|-------------------------|--------------------------------|
| GEO 1                    | 24 months               | { Offeror fill in }            |
| GEO 2                    | 60 months               | { Offeror fill in }            |
| LEO                      | 24 months               | { Offeror fill in }            |
| Polar 1                  | 24 months               | { Offeror fill in }            |
| Polar 2                  | 60 months               | { Offeror fill in }            |
| MEO Direct               | 24 months               | { Offeror fill in }            |
| MEO Transfer             | 24 months               | { Offeror fill in }            |
| GTO 1                    | 24 months               | { Offeror fill in }            |
| GTO 2                    | 24 months               | { Offeror fill in }            |
| Molniya                  | 24 months               | { Offeror fill in }            |

NOTE: Orbit Descriptions listed in Table 10 are for pricing purposes and should not be used for manifest planning purposes.

**Table 11. Launch Service Support (LSS) Pricing for Launch Services**

| <b>GFY19</b>        | <b>GFY20</b>        | <b>GFY21</b>        | <b>GFY22</b>        | <b>GFY23</b>        | <b>GFY24</b>        |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| { Offeror fill in } | { Offeror fill in } | { Offeror fill in } | { Offeror fill in } | { Offeror fill in } | { Offeror fill in } |

### **3.1.6 Section VI: Agreement Section**

#### **3.1.6.1 Model Agreement**

The Government has provided a model agreement. The Offeror shall fill in all applicable information as indicated, including company names and dates. Articles are subject to negotiation except for the following, which are nonnegotiable:

- ARTICLE I: Authority
- ARTICLE III: Applicable Law and Severability
- ARTICLE XI: Patent Rights
- ARTICLE XII: Data Rights
- ARTICLE XIII: Foreign Access to Technology
- ARTICLE XV: Other Applicable Laws and Regulations
- ARTICLE XVI: Order of Precedence
- ARTICLE XXI: Article Execution

Offerors shall delineate their proposed efforts into Payload Category C class LV prototypes and a prototype for all other LV configurations.

#### **3.1.6.2 Statement of Work (SOW)**

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The Offeror shall propose a SOW that accomplishes all objectives and instructions identified in the Government-provided Statement of Objectives (SOO), which is included as Annex A to this document. The Offeror shall address in the SOW:

- 1) Each of the objectives listed in the Government SOO. The Offeror's proposal shall include a separate cross reference matrix that clearly indicates which portions of the SOW fulfill each objective listed in the Government SOO.
- 2) Description of the launch system prototype development effort to be performed under the proposed OT agreement. Launch system development is defined in Section 1.1.1 and in the SOO.
- 3) Description of the systems engineering and specialty engineering processes to be used for the launch system development to be performed under the proposed OT agreement. This may include command media, instructions, or other process documentation followed by the Offeror.
- 4) Certification Plan(s) for the proposed launch system development. Certification Plan(s) shall be included as Annex(es) to the SOW. The Offeror shall include any relevant, approved Certification Plan(s) at the time of proposal delivery. If the Offeror requires an updated or additional Certification Plan in order to have the proposed launch system certified to meet all EELV launch requirements, then the Offeror shall include a draft Certification Plan or a draft update to an existing Certification Plan as an Annex to the SOW. The Government will work with the Offerors outside of the source selection to finalize the Certification Plans and obtain SMC/CC approval. The approved Certification Plan(s) will be incorporated as Annex(es) to the SOW and will be included in the resultant agreement after negotiations.

The Offeror's proposed SOW will be included as Attachment 1 in the resultant agreement after negotiations.

### **3.1.6.3 Milestone Payment Plan**

The Offeror shall propose a schedule of milestones and payments for the proposed development effort that includes key milestones consistent with the Certification Plan(s) included as an Annex(es) to the SOW. The proposed milestones will include clear and concise descriptions of the event, objective success criteria, completion evidence, and a planned completion date to enable assessment of technical and schedule progress. Milestones should be planned with enough frequency that they may be used as a means to monitor progress and serve as decision points for continued funding. The schedule of milestones and payments should correlate to the accomplishment of the proposed work (consistent with the SOW) and expected expenditure (consistent with the Cost Element Summary).

The proposed cumulative Government payments shall not exceed the maximum (2/3) cost share of cumulative total investment costs at any point.

In Table 1 in Annex C Attachment 2 the Offeror shall clearly identify which milestones cover effort to complete RPS prototype development and which milestones cover effort to complete launch system prototype development. The Offeror shall not develop milestones that cover effort for both RPS prototype development and launch system prototype development.

The Offeror shall complete Table 1 in Annex C Attachment 2. Below Table 1, the Offeror shall describe the cash and in-kind investment details. Using the additional requirements included in Annex

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C Attachment 2, the Offeror shall write in the appropriate milestones and success criteria in the narrative after the table. Annex C Attachment 2 includes mandatory milestones that must be included in the Offeror's proposed Milestone Payment Plan. The Milestone Payment Plan shall be included as Attachment 2 to Annex C.

The Offeror's proposed Milestone Payment Plan will be included as Attachment 2 in the resultant agreement after negotiations.

#### **3.1.6.4 DD Form 254**

The Offeror shall fill in all appropriate information in the DD Form 254, Contract Security Classification Specification. If the Offeror recommends changing any of the pre-filled information in the DD Form 254, the Offeror shall include a narrative identifying the changes and providing a rationale for them.

The Offeror's proposed DD Form 254, when accepted by the Government, will be included as Attachment 3 in the resultant agreement.

#### **3.1.6.5 Government Property**

If the Offeror proposes the use of Government Property (GP), the Offeror shall list the GP proposed for use, which will be included as Attachment 6 in the resultant agreement. The Offeror shall provide documentation that the proposed Government property usage has been approved by, or at a minimum, pre-coordinated with the cognizant ACO in accordance with Section 3.1.4.4.

The Offeror's proposed Government Property List, when accepted by the Government, will be included as Attachment 6 in the resultant agreement.

#### **3.1.6.6 Organizational Conflict of Interest (OCI)**

The Offeror shall conduct an OCI review to determine whether there are any potential or actual OCIs. If any OCIs are identified, the Offeror shall complete and submit an OCI Mitigation Plan as applicable in accordance with the SMC Organizational Conflict of Interest Mitigation Plan Checklist (Annex B of this solicitation). The proposed OCI Mitigation Plan shall:

- a. Describe in detail any potential OCIs of which the Offeror is aware associated with its or any of its divisions'/affiliates'/subcontractors' performance under any contract it or any of its divisions/affiliates/subcontractors has been or may be awarded by any federal agency or any other entity whose performance may create an OCI if awarded a launch system development agreement, including if the Offeror is a member of more than one team, consortium, or partnering arrangement that is proposing launch system development efforts under this agreement,
- b. Describe in detail the methodology the Offeror used to identify those potential OCI issues,
- c. Describe in detail the specific techniques the Offeror intends to use to mitigate each potential OCI identified in its proposed OCI Mitigation Plan, and affirm that if awarded an agreement, the Offeror cannot and will not compete for future EELV systems engineering and integration (SE&I) contracting support.



## **4. EVALUATION**

The Government will use the process described in Section 1.2 to conduct evaluations.

Proposals must conform to the solicitation's requirements. Proposals shall be clear and concise and shall include sufficient detail for effective evaluation and for substantiating the validity of stated claims. Proposals shall not simply rephrase or restate the Government's requirements but rather shall provide convincing rationale to address how the Offeror intends to meet these requirements. **Offerors shall assume that the Government has no prior knowledge of their capabilities and experience and will base its evaluation on the information presented in the Offeror's proposal.** The selection process, by its nature, is subjective, and, therefore, professional judgment is implicit throughout the entire process.

### **4.1 Evaluation Factors**

Award will be made to the Offeror proposing the combination that represents the best value to the Government based upon an integrated assessment of the evaluation factors and subfactors described in Section 4.2. The Factors are listed in order of importance, from highest to lowest. The Technical Subfactors are also listed in order of importance, from highest to lowest.

Factor 1: EELV Approach

Factor 2: Technical

Subfactor 1: Design

Subfactor 2: Schedule

Factor 3: Investment Cost

Factor 4: Estimated Launch Service Prices

### **4.2 Evaluation of Proposals**

#### **4.2.1 Factor 1: EELV Approach**

The Government will rate the EELV Approach factor using a Technical Rating and a Technical Risk Rating. The evaluation shall utilize the Technical Ratings and listed in Table 12 and the Technical Risk Ratings set forth in Table 13. The Government will assess the EELV Approach factor in terms of weaknesses, significant weaknesses, strengths, and deficiencies.

A “weakness” means a flaw that increases the risk of unsuccessful agreement performance.

A “significant weakness” is a flaw that appreciably increases the risk of unsuccessful agreement performance.

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A “strength” is an aspect of an Offeror’s proposal that has merit or exceeds specified performance or capability requirements in a way that will be advantageous to the Government.

A “deficiency” is a material failure of a proposal to meet a Government requirement or a flaw or combination of flaws that appreciably increases the risk of unsuccessful performance.

**Table 12. Technical Ratings**

| <b>Color Rating</b> | <b>Adjectival Rating</b> | <b>Description</b>   |
|---------------------|--------------------------|--|
| <b>Blue</b>         | Outstanding              | Proposal indicates an exceptional approach and understanding of the requirements and contains multiple strengths.              |
| <b>Purple</b>       | Good                     | Proposal indicates a thorough approach and understanding of the requirements and contains at least one strength.               |
| <b>Green</b>        | Acceptable               | Proposal meets requirements and indicates an adequate approach and understanding of the requirements.                          |
| <b>Yellow</b>       | Marginal                 | Proposal has not demonstrated an adequate approach and understanding of the requirements.                                      |
| <b>Red</b>          | Unacceptable             | Proposal does not meet requirements of the solicitation, and thus, contains one or more deficiencies. Proposal is unawardable. |

**Table 13. Technical Risk Ratings**

| <b>Rating</b> | <b>Definition</b>  |
|---------------|--|
| Low           | Proposal may contain weakness(es) which have little potential to cause disruption of schedule, increased cost or degradation of performance. Normal Participant effort and normal Government monitoring will likely be able to overcome any difficulties.  |
| Moderate      | Proposal contains a significant weakness or combination of weaknesses which may potentially cause disruption of schedule, increased cost or degradation of performance. Special Participant emphasis and close Government monitoring will likely be able to overcome difficulties.                 |
| High          | Proposal contains a significant weakness or combination of weaknesses which is likely to cause significant disruption of schedule, increased cost or degradation of performance. Is unlikely to overcome any difficulties, even with special Participant emphasis and close Government monitoring. |
| Unacceptable  | Proposal contains a combination of significant weaknesses that increases the risk of unsuccessful performance to an unacceptable level.  |

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The Government will evaluate the extent to which the Offeror's approach will meet EELV launch service requirements for:

- 1) The ability to meet all EELV reference orbits, as defined in the SPRD and SIS (Annex C, Attachment 4)
- 2) The ability to support up to five NSS launches per year
- 3) The characteristics of launch system infrastructure, including both the East and West coasts, that meet EELV requirements in the SPRD and SIS (Annex C, Attachment 4)
- 4) The proposed mission assurance approach to ensure low risk and high confidence in launching NSS missions
- 5) The ability to slow or surge to accommodate uncertain NSS, commercial and civil launch forecasts

The Government reserves the right to accept or not accept the Offeror's assessment of "strengths."

#### **4.2.2 Factor 2: Technical**

The Government will rate the Technical Subfactors separately. Each Technical Subfactor will receive a Technical Risk rating as defined in Table 13. Subfactor ratings will not be rolled up into an overall rating for the Technical factor. Proposals with a Technical Risk rating of Unacceptable are not awardable.

Technical Risk is manifested by the identification of weakness(es). For Technical Risk ratings, the Offeror's proposal will be evaluated in terms of weaknesses and significant weaknesses.

A "weakness" means a flaw that increases the risk of unsuccessful agreement performance.

A "significant weakness" is a flaw that appreciably increases the risk of unsuccessful agreement performance.

##### **4.2.2.1 Subfactor 1: Design**

The Government will evaluate the criteria detailed below for Subfactor 1 and will assign Subfactor 1 a Technical Risk rating as defined in Table 13.

###### **4.2.2.1.1 Technical Feasibility**

The Government will evaluate the design risk for the following items:

- 1) Stage Separation System(s)
- 2) Engines/Motors
- 3) Payload Fairing (address all SIS fairings)

In order to evaluate the risk of the design for each of the items listed above, the Government will consider the following information:

- a) Design or flight heritage,
- b) Roadmap that demonstrates progression from the current technology readiness level (TRL) to TRL 9 using analyses, testing, and demonstration, as applicable,
- c) Description of new and existing technologies, materials, and processes used to drive the design, and;
- d) Technical risks with risk handling plans.

#### **4.2.2.2 Subfactor 2: Schedule**

The Government will evaluate the criteria detailed below for Subfactor 2 and will assign Subfactor 2 a Technical Risk rating as defined in Table 13.

##### **4.2.2.2.1 Schedule Activities**

The Government will evaluate the Offeror's schedule to determine the risk to development of:

- 1) the LV booster, upper stage, and the launch pad infrastructure for a Payload Category A and B LVs that meets applicable EELV requirements, including activities to accomplish the tasks in the Offeror's proposed SOW. For the purposes of Subfactor 2, Payload Category A and B LVs are defined as LVs capable of achieving all EELV Mass-to-Orbit Requirements except GEO 2 and Polar 2 as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services."
- 2) the LV booster, upper stage, and the launch pad infrastructure for a Payload Category C LV that meets applicable EELV requirements, including the development of a payload fairing (PLF) with the capability to interface with the National Reconnaissance Office (NRO) Mission Support Equipment (MSE) as defined in the SIS, and activities to accomplish the tasks in the Offeror's proposed SOW. For the purposes of Subfactor 2, the Payload Category C LV is defined as an LV capable of achieving the GEO 2 and Polar 2 EELV Mass-to-Orbit Requirements as defined in the orbit descriptions in Table 9 "Estimated Pricing for Launch Services," which includes a 173-inch diameter standard interface and a payload fairing with a minimum payload static envelope as defined in Table 4.

The Government will evaluate the assumptions, methodology, and rationale used to link the tasks and formulate task durations.

##### **4.2.2.2.2 Schedule Risk Analysis**

The Government will evaluate the Offeror's schedule risk assessments to determine the risk of completing the development and certification of an EELV certified launch system (as defined in Section 3.1.3.2.2) at 80% probability at 50% confidence.

The Government will evaluate the following:

- 1) Assumptions and methodology used to formulate the best case, most likely, and worst case probability distributions.

- 2) Historical performance data used to formulate the best case, most likely case, and worst case task durations. If the probability distribution does not reflect historical performance, then the Government will consider the Offeror's explanation for the deviation.

#### **4.2.3 Factor 3: Investment Cost**

The Government will evaluate whether the Investment Cost information is complete and reasonable based upon the definitions in Table 14. The Government will consider the following proposed cost information:

- 1) Total Government Investment: the total dollar amount of Government investment requested by the Offeror
- 2) Total Non-Government Investment: the total dollar amount of non-Government investment provided by the Offeror.
- 3) Total Combined Investment: the total dollar amount of all investment required for development of the launch system prototype during the agreement period of performance, including both Government and Non-Government sources
- 4) Industry Cost Share: the proportion of the Combined Total Investment that will be funded by Non-Government sources.

**Table 14. Investment Cost Definitions**

| <b>Term</b> | <b>Definition</b>  |
|-------------|--|
| Complete    | To be considered "complete," the Offeror must have provided all of the Investment Cost information requested in the solicitation, be reconcilable, and be substantiated with supporting data and estimating rationale.   |
| Reasonable  | To be considered "reasonable," the Offeror's costs must be reasonable for acceptance by a prudent person. In demonstrating reasonableness, the Offeror must show that sound, rational judgment was used in applying the cost methodologies to derive the proposed dollars. |

#### **4.2.4 Factor 4: Estimated Launch Service Prices**

The Government will evaluate whether the proposed prices are complete and reasonable based upon the definitions in Table 15.

The Government will consider the following proposed price information:

- 1) Total of all estimated launch service prices proposed by the Offeror (Table 9)
- 2) The individual estimated launch service prices proposed by the Offeror (Table 9)
- 3) The individual launch service NTE prices proposed by the Offeror (Table 10).
- 4) LSS estimated prices proposed by the Offeror (Table 11).
- 5) The rationale and methodologies used to determine proposed prices.
- 6) The assumptions used to determine proposed prices.

**Table 15. Launch Service NTE Price Definitions**

| <b>Term</b> | <b>Definition</b>  |
|-------------|--|
| Complete    | To be considered “complete,” the Offeror must have provided all of the estimated Launch Service Price information requested in the solicitation, be reconcilable, and be substantiated with supporting data and estimating rationale.                                  |
| Reasonable  | To be considered “reasonable,” the Offeror’s prices must be reasonable for acceptance by a prudent person. In demonstrating reasonableness, the Offeror must show that sound, rational judgment was used in applying the methodologies to derive the proposed dollars. |

### **4.3 Negotiations and Portfolio Selection**

As described in Section 1.2, this selection will involve concurrent or sequential negotiations separately with multiple parties on all aspects of the proposed launch system prototype development effort. These negotiations may include the scope, description of work, investment dollar amounts, payment milestones (including criteria for milestones to be met), launch service estimated prices, and terms and conditions. If an Offeror does not have an SMC/CC approved Certification Plan prior to the start of negotiations, negotiations with that Offeror may be delayed until the Certification Plan is approved.

Based upon an integrated assessment of the EELV Approach, Technical, Investment Cost, and Estimated Launch Service Prices evaluations and Government funding limitations, the Source Selection Authority (SSA) will select a portfolio of solutions that represents the best value to the Government by most effectively supporting the Government’s goal to achieve assured access to space via two or more domestic commercial launch service providers that also meet NSS requirements. This best value decision shall be based on a comparative assessment of proposals against the source selection criteria in the solicitation, considering recommendations and minority opinions presented to the SSA. While the SSA may use reports and analyses prepared by others, the source selection decision shall represent the SSA’s independent judgment.

## **5. DETERMINATION OF RESPONSIBILITY**

In order for an Offeror to receive an award under this solicitation, the AO must make an affirmative determination of responsibility. While the FAR generally does not apply to this solicitation, the general standards for responsibility in FAR 9.104-1 will be used. If the Offeror’s Certification Plan(s) (addressing all NSS requirements) have not been approved by SMC/CC, the AO will consider whether the underlying reasons for the Certification Plan(s) not being approved are related to the responsibility standards in FAR 9.104-1(e).

## 6. EELV ORBIT DESCRIPTIONS

**Table 16: Orbit Descriptions**

| Orbit Description | Apogee Altitude (nmi) | Perigee Altitude (nmi) | Inclination (deg) | Mass to Orbit (lbm) | Payload Category** |    |    |
|-------------------|-----------------------|------------------------|-------------------|---------------------|--------------------|----|----|
|                   |                       |                        |                   |                     | A                  | B  | C  |
| LEO               | 500                   | 500                    | 63.4              | 15,000              | X                  | X  | -- |
| Polar 1           | 450                   | 450                    | 98.2              | 15,500              | X                  | X  | -- |
| Polar 2           | 450                   | 450                    | 98.2              | 37,500              | --                 | -- | X  |
| MEO Direct        | 9,815                 | 9,815                  | 50                | 11,750              | X                  | X  | -- |
| MEO Transfer      | 10,998                | 540                    | 55                | 9,000               | X                  | X  | -- |
| GTO 1             | 19,323                | 100                    | 27                | 18,000              | X                  | X  | -- |
| GTO 2             | 19,323                | 100                    | 27                | 11,000*             | X                  | X  | -- |
| Molniya           | 21,150                | 650                    | 63.4              | 11,500              | X                  | X  | -- |
| GEO 1             | 19,323                | 19,323                 | 0                 | 5,000*              | X                  | X  | -- |
| GEO 2             | 19,323                | 19,323                 | 0                 | 14,500*             | --                 | -- | X  |

\* Mission unique mass to orbit

\*\* In order to standardize terms with respect to payload size, SIS Rev C, which will be updated prior to the release of a final LSA solicitation, is implementing payload categories:

- Payloads in Category A fit within a 4 meter envelope.
- Payloads in Category B fit within a 5 meter envelope.
- Payloads in Category C are heavy payloads.

## 7. EELV REFERENCE MANIFEST

**Table 17: Reference Manifest (Launch Years)**

| Satellite System | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|------------------|------|------|------|------|------|------|
| AFSPC-X          | 1    | 2    |      | 2    | 2    |      |
| GPS III          | 1    |      | 3    | 3    | 3    |      |
| NROL             |      | 1    |      | 2    |      |      |
| NROL Heavy       |      |      |      | 1    |      | 2    |
| STP              |      |      | 1    |      |      |      |
| SBIRS GEO/FO     | 1    |      |      | 1    | 1    |      |

**REFERENCE MANIFEST IS SUBJECT TO CHANGE AT ANY TIME**

**THE NUMBER OF MISSIONS MAY INCREASE OR DECREASE DEPENDING ON NATIONAL SECURITY NEEDS. MISSIONS MAY BE ORDERED AT L-24 MONTHS, EARLIER, OR LATER DEPENDING ON MISSION NEED.**

AFSPC-X = Air Force Space Command-designated missions

FO = follow-on

GPS = Global Positioning System

NROL = National Reconnaissance Office launch

STP = Space Test Program

SBIRS GEO = Space Based Infrared Satellite Geostationary missions



## **8. SIGNIFICANT EELV DATES**

**Table 18: Significant EELV Dates**

| <b>Description</b>  | <b>Date</b>                  |
|---|------------------------------|
| Begin Early Integration Studies (EIS) for AF missions and Leading Edge Integration (LEI) for NRO missions | FY19                         |
| Begin Phase 2 launch service orders   | FY20                         |
| Initial Launch Capability (ILC) for Category A/B launch solution  | 1 <sup>st</sup> Quarter FY22 |
| ILC for East Coast launches   | 1 <sup>st</sup> Quarter FY22 |
| ILC for Category C launch solution (tentative)  | FY25                         |
| ILC for Category C launch solution (firm)   | FY27                         |
| ILC for West Coast launches   | FY27                         |

## **9. RFP CROSS REFERENCE MATRIX**

| <b>Proposal Section Name</b>                  | <b>Instructions</b> | <b>Evaluation Criteria</b> |
|---|---------------------|----------------------------|
| Section I: Executive Summary                  | 3.1.1               | N/A                        |
| Section II: EELV Approach                     | 3.1.2               | 4.2.1                      |
| Section III: Technical Factor                 | 3.1.3               | 4.2.2                      |
| Section IV: Investment Cost                   | 3.1.4               | 4.2.3                      |
| Section V: Estimated Launch<br>Service Prices | 3.1.5               | 4.2.4                      |
| Section VI: Agreement Section                 | 3.1.6               | N/A                        |